

PAGE MUNICIPAL
AIRPORT
**MASTER PLAN
UPDATE**
2000-2020



Facility Inventory

CHAPTER 2

FACILITY INVENTORY

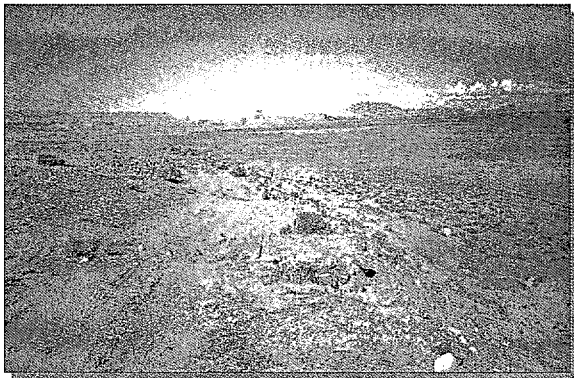
2.1 INTRODUCTION

The inventory of existing facilities and conditions establishes the foundation upon which the planning process will be constructed. This process will use the information in this chapter to help determine those factors that will meet projected aviation demand in the community and region.

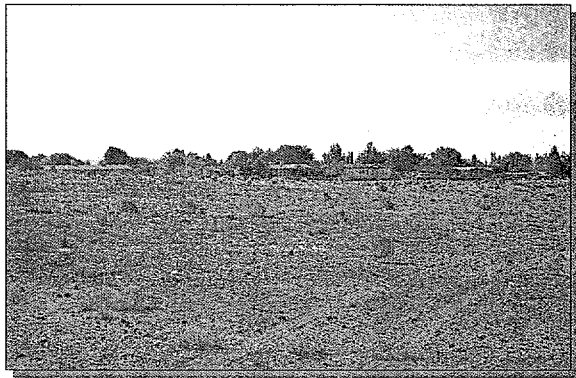
2.2 BACKGROUND

2.2.1 Airport Setting

The 536-acre Page Municipal Airport is located in the northeast corner of Manson Mesa. The community of Page is just west of the airport. Residential development has occurred along nearly the entire length of the western boundary of the airport with remaining three sides of the airport restricted by sloping terrain (see photos below).



Northeast view from Runway 15 end



Residential areas west of the airport

The City of Page is surrounded by the Navajo Nation on the East through the Southwest, and the Lake Powell and Glen Canyon National Recreation area from the West to the Northeast. The Utah border is approximately 6 miles North of the airport. Other airports in the vicinity of Page Municipal Airport include Marble Canyon (approximately 14 miles SSW) and Cliff Dwellers (approximately 39 miles S).

2.2.2 Regional Transportation

Highways

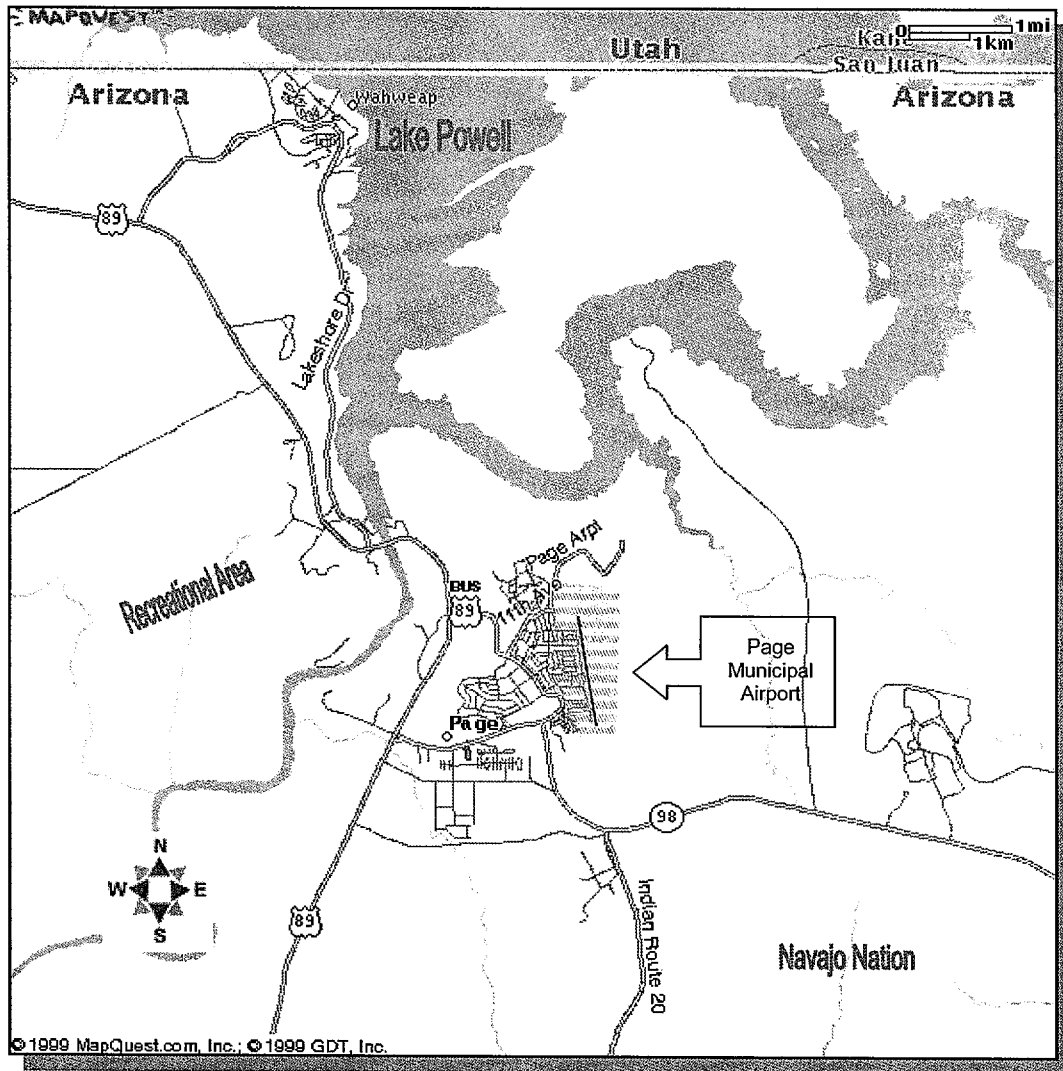
U.S. 89 and State Highway 98 (through Navajo Nation Reservation) serve the City of Page (see **Exhibit 2-1**). Truck transportation is provided by interstate trucking companies and overnight delivery services.

Air

The Page Municipal Airport has passenger air service currently provided by Sunrise Airlines. Flights depart daily to Phoenix, Arizona and 3 times per week to Las Vegas, Nevada. Passengers seeking large air carrier service use Phoenix Sky Harbor International Airport

(approximately 290 miles south) and McCarran International Airport (approximately 288 miles northwest).

Exhibit 2-1 Airport Location



2.2.3 Airport History

The City was built by the U.S. Bureau of Reclamation to support construction workers building the Glen Canyon Dam in 1957. As part of the original town site development, an airstrip was constructed for the transportation of personnel and supplies during the dam construction. The facility was named Glen Canyon Airport. On March 1, 1975, the Town of Page was officially incorporated under the laws of the State of Arizona. At approximately the same time the town was incorporated, the United States Department of Interior executed a quitclaim deed conveying to the town several major tracts of land within the boundaries of Page. Glen Canyon Airport was a part of that quitclaim and became Page's responsibility for growth and development. It was then renamed the Page Municipal Airport.

2.2.4 Project History

Records of Federal and State aid to Page Municipal Airport have been maintained by the FAA and the Arizona Department of Transportation's Aeronautics Division. The following table summarizes the major facility improvements since the initial development of the airport. Continued growth in tourism and the community drove the continued improvement of the airport to include projects such as:

Year	Project Description
1957*	Original construction of 4,500 by 50 feet wide runway (Runway 15-33) with exit taxiways leading to a 300 by 150 feet wide aircraft parking apron.
1958	Sky West Airlines constructed a hangar for maintenance and storage.
1960	Construction of 2,380 by 80 feet wide graded crosswind runway (Runway 7-25)
1963	Sky West Airlines constructed a second hangar.
1968*	Runway Extension to 5,500 feet and two exit taxiways widened to 75 feet. An additional 75 feet on the western edge of the aircraft apron was built. The original 1,875 square-foot terminal building was constructed (<i>not funded by Federal or State money</i>).
1977*	Apron Expansion, Connecting Taxiway, Relocate Segmented Circle, Security Fencing and Apron Lighting
1979*	Construction of parallel taxiway extending the full length of the runway and 40 feet wide. Installed Medium Intensity Taxiway Lighting System (MITLs). Holding aprons were also provided at both ends of the taxiway.
1982	Aircraft parking apron was expanded 262 feet to the north.
1985	Runway 15-33 and taxiway exits were overlaid.
1987	Original Terminal Building was renovated and enlarged in 1987 and attached to conventional Hangars.
1988	Aircraft parking apron was expanded an additional 292 feet to the west. Installed runway and taxiway guidance signs. Installed Runway End Identifier Lights (REILs) at both ends of Runway 15-33.
1989*	Airport Master Plan Update
1990*	Main runway, taxiway and apron surfacing/ pavement preservation
1992*	Airport Site Selection Study
1994	Construction of New Terminal (Scenic Airlines, Inc.) and Automated Surface Observation System (ASOS)
1995	Construction of Sunrise Airline's Maintenance Hangar adjacent to new Terminal Building.
1997	Construction of Classic Helicopter's Service Hangar. The City built an aircraft washrack.
1999*	Aircraft parking apron expansion 400 x 500 feet to the north.

*Note: Partially funded by Federal and/or State money. There is a gap in historical records as to when and how the aircraft apron east of the terminal building was developed. Based on the previous Master Plan, records indicate that the apron was constructed between 1968 and 1972.

2.3 AIRPORT SERVICE AREA

The initial step in determining future aviation demand is to define the geographic area served by the airport. The airport service area is determined with respect to time and convenience involved to reach another aviation facility near Page. The airport service area is shown in **Exhibit 2-2**. Factors considered in determining time and convenience include mileage, prevailing highway speeds, traffic flow and attractions in the area. The Page service area extends into Utah and includes Lake Powell. The Service Area is defined by the boundary shown in Exhibit 2-2.

The Arizona Air Service Study conducted by ADOT, Aeronautics Division in 1998, describes the airport's service area as follows:

"The Page Municipal Airport has an actual service area that encompasses Page and immediately adjacent areas. Also, a small area in southern Utah utilizes the Page Airport; specifically, vacationers traveling to and from the resort area at Lake Powell. Other than this, the actual service area does not span much beyond the City of Page...Data also indicates that air travelers associated with the local Page market are driving to the major/national airports in Las Vegas and Phoenix. Drives to these major/national airports are very long, taking four hours to drive from Page to Phoenix, although the highway access to Phoenix is relatively good." (Pg.4-9, Draft Arizona Air Service Area, November 1998)

Following the PAC's review of the Airport Service Area, the PAC identified a larger area as the potential Airport Service Area for comparison, this service area is illustrated in Appendix A.

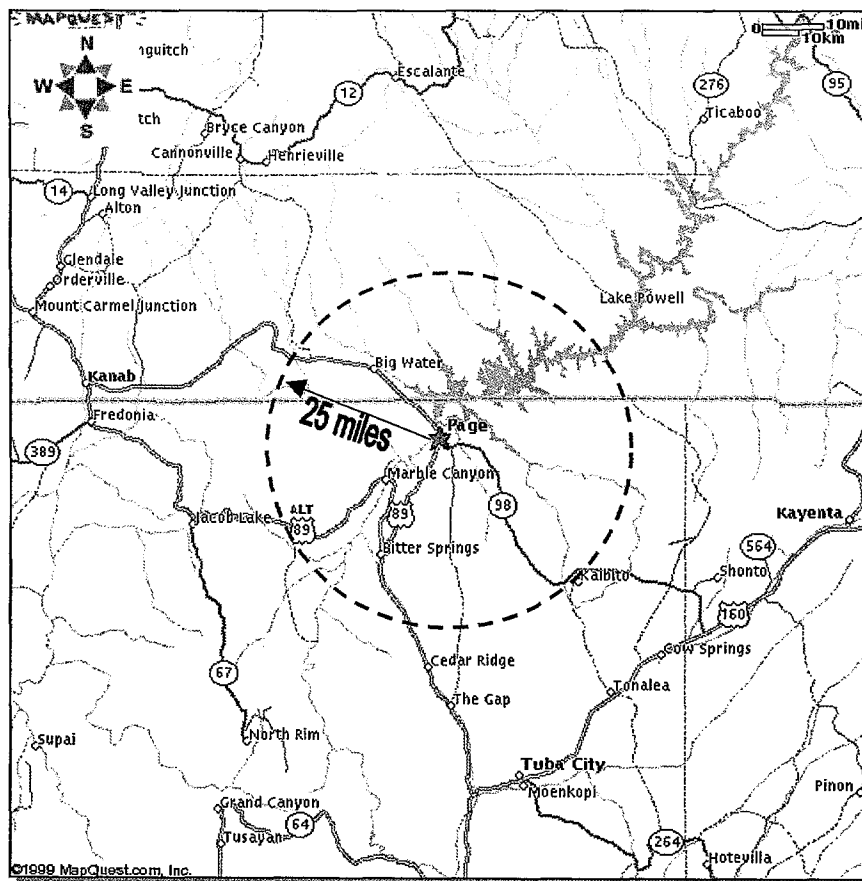


Exhibit 2-2
Airport Service Area

2.4 AIRPORT CLASSIFICATION, ACTIVITY CATEGORIES AND USERS

To better understand the dynamics of the Page Municipal Airport, the types of activity and users must be defined. An airport can be classified by various airport elements such as airport role, types of aircraft activity, aircraft performance, and aircraft physical characteristics. These classifications serve to identify the various development needs of the airport in later elements of the master plan.

2.4.1 Airport Classification

Page Municipal Airport's role is identified as Commercial Service. This airport classification is one of several established by Arizona Department of Transportation (ADOT) to develop standards and planning guidelines for the State's public-use airports.¹

State of Arizona Airport System: The Aeronautics Division divides all airports/heliports into three airport classifications for planning and administrative purposes. The three classifications include: Primary, Secondary and Emerging Rural Airport.

Page Municipal Airport is categorized as a Primary Airport. In addition, Page Municipal Airport is classified in the National Plan of Integrated Airport Systems (NPIAS), 1997-2002, as a Commercial Service Airport, serving the short-haul markets. The airport actually serves users involved in all types of aviation activity. This planning study will carefully analyze the needs of each type of user and ensure that development of the airport properly integrate their needs.

2.4.2 Categories of Aviation Activity

The FAA currently defines three broad categories of aviation activity: General Aviation, Commercial Service and Military.

General Aviation is the largest and the most significant element of the national air transportation system. General Aviation aircraft account for approximately 98 percent of all aircraft in use today and 95 percent of all airports. It is by no coincidence that general aviation has contributed to the socioeconomic phenomenon that has seen American industry move from the larger metropolitan areas to smaller communities like Page. Smaller communities can offer industry lower taxes and labor costs, closer access to raw materials and natural resources, and a working environment.

Commercial Service applies to those airlines providing scheduled carriage of passengers and/or licensed by the FAA. Sunrise Airlines currently provides air passenger service from Phoenix to Page daily with additional flights to Las Vegas which started May 15, 2000.

Military activity consists of operations performed by military designated aircraft and crew. Military activity usually plays a small role in the operation of civilian airports, generally in numbers of flights, but often has a disproportionately high impact on airspace.

¹ 1995 Arizona State Aviation Needs Study, pg. 3-11; Element Three

2.4.3 Airport Reference Code

The Airport Reference Code (ARC) is a coding system developed by the FAA and used to relate airport design criteria to the operational and physical characteristics of aircraft intended to operate at the airport. The ARC has two components: aircraft approach speed, depicted by a letter and airplane wingspan, depicted in Roman numerals. The approach categories and aircraft design groups, defined in FAA Advisory Circular 150/5300-13, Airport Design, are summarized in the following table.

Aircraft Approach Categories		Aircraft Design Groups	
<u>Category</u>	<u>Approach Speed</u>	<u>Group</u>	<u>Wingspans</u>
A	Less than 91 knots	I	up to but not including 49 feet
B	91 knots or more but less than 121 knots	II	49 feet up to but not including 79 feet
C	121 knots or more but less than 141 knots	III	79 feet up to but not including 118 feet
D	141 knots or more but less than 166 knots	IV	118 feet up to but not including 171 feet
E	166 knots or more	V	171 feet up to but not including 197 feet
		VI	197 feet up to but not including 262 feet

Based on a review of the type of aircraft currently operating at Page Municipal Airport, the Aircraft Approach Category is B and the Airplane Design Group is II. This combination, B-II, forms the FAA alphanumeric Airport Reference Code (ARC) for Page.

2.4.4 Airport Users

The current Page Municipal Airport users are identified as follows:

Sunrise Airlines is the only airline providing scheduled commuter service at Page Municipal Airport. Scenic Airlines provided service up until March 1999 when it was acquired by Sunrise Airlines. Sky West provided service, prior to Scenic Airlines, up until the summer of 1997. The airline has scheduled flights to and from Phoenix and Las Vegas.

Since acquiring Scenic Airlines, Sunrise Airlines has established Page as its headquarters. Maintenance, dispatch, flight operations, and administration are all based in Page, which also support additional routes in the region. In addition to providing scheduled commuter service, Sunrise Airlines provides nonscheduled/on-demand passenger service and freight service (small packages). The non-scheduled/on-demand passenger service includes charter flights and tours under the name Lake Powell Air.

Classic Aviation utilizes rotorcraft to conduct all of its operations, which includes non-scheduled and on-demand service. The operations consist of medical transports and air tours of the area landscapes. The medical transports involve on-site rescues and facility-to-facility patient transports. Classic Aviation started operating at Page in 1998.

Other Non-Scheduled/On-Demand operators, such as Air Vegas Inc., conduct flights at Page Municipal Airport. However, the flights are infrequent having minimal impact on the airport's activity as whole.

Non-Military Government agencies operate in and out of Page Municipal Airport. The majority of the non-military government activity involves the National Park Service (NPS), Salt River Project (SRP), and the Navajo Nation. Other non-military government operators at the airport include agencies such as Arizona Department of Fish & Game and Department of Public Safety (DPS). However, their level of activity is minimal.

Military operations predominately involve rotorcraft activity, such as Black Hawks and Apaches, by the U.S. Army. On occasion, there is military activity by fixed wing. However, the level of activity is also minimal.

Private operations include business, recreational, and training. In addition to corporate flights, business activity includes individual airplane owners flying in and out of Page Municipal Airport for the purpose of conducting business. Training operations include flights conducted by certified pilots, who are trying to keep current, and student pilots. Private pilots at Page Municipal Airport may fly out on business one day, take a scenic flight on another day, and practice touch-n-go operations on yet another day.

2.5 EXISTING FACILITIES

This section provides an inventory of airside and landside facilities at Page Municipal Airport. This Inventory will be an important planning tool used in conjunction with forecasts of aviation demand to determine future airport needs. **Exhibit 2-3** provides an illustration of the existing airside and landside facilities discussed here.

2.5.1 Airside

Airside facilities are those which are directly associated with aircraft operating to and from the airport. Runways, taxiways, aprons, navigational aids, and airport lighting are examples of Airside Facilities.

Runways

Page Municipal has two active runways, identified as Runway 15-33 and Runway 07-25.

Runway 15-33, with dimensions of 150 feet by 5,500 feet, is the primary runway and has an asphalt concrete surface with a weight bearing capacity of 65,000 pounds single wheel load (SWL). The pavement is in fair condition.

Runway 07-25, with dimensions of 75 feet by 2,200 feet with a non-rated weight bearing capacity, is designated as the crosswind runway and has a gravel surface.

Taxiway System

Runway 15-33 has a full-length parallel taxiway with five (5) connecting taxiways along the runway. The parallel taxiway is 40 feet wide with an estimated weight bearing capacity of 65,000 pounds single wheel load (SWL).

Two (2) of the five connecting taxiways are 75-foot wide high-speed taxiway exits. Crosswind Runway 07-25 does not have parallel taxiway, but uses Taxiway A for access to the terminal area.



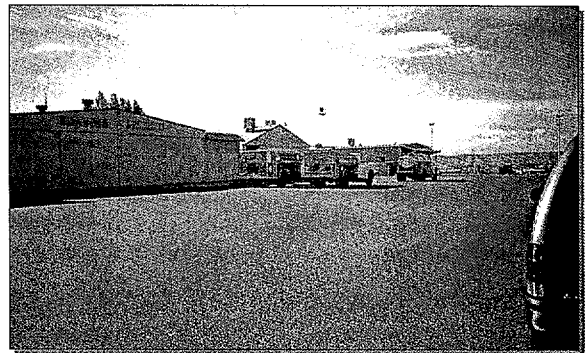
Aircraft Parking Aprons

There are two (2) aircraft apron areas with a total of 137 aircraft tiedowns. Both are located in the center of the airport. The largest (main) apron area is north of and adjacent to the Terminal Building.

Main/Terminal: The apron is approximately 21.5 acres with a total of 115 aircraft tiedowns. This apron is used for local and transient aircraft parking, as well as commuter passenger boarding and deplaning.

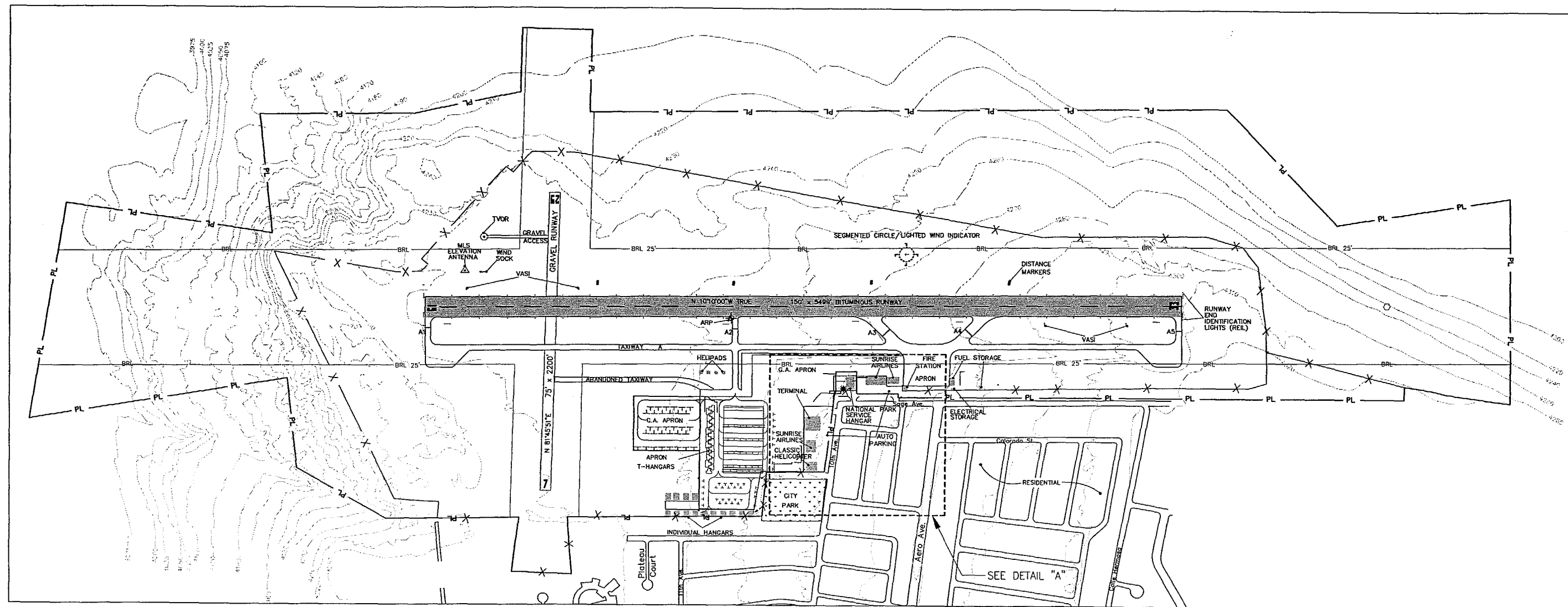
Secondary: The second apron area is located south and east of the Terminal Building. The apron area is approximately 1.7 acres with estimated weight bearing capacity of 12,500 pounds single wheel gear (SWG) and has 22 aircraft tiedowns. Sunrise Airlines, the National Park Service, Navajo Nation, and SRP primarily use this apron, along with short-term transient aircraft parking.

Both aircraft parking apron pavements are in good condition.

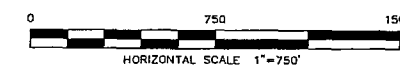
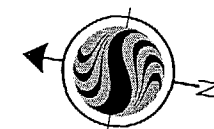
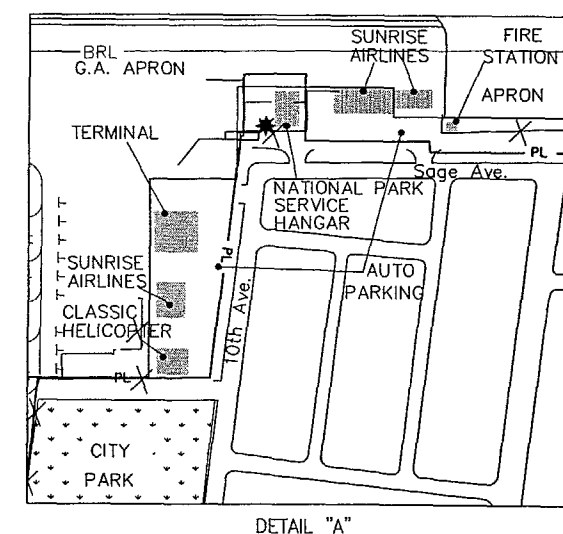


Helipads: There are four (4) privately leased (23 X 21 feet) helicopter landing pads located west of Taxiway A, adjacent to the main general aviation apron area. There are also two (2) additional privately leased helicopter takeoff areas located in front of the Classic Helicopter maintenance hangar. The takeoff areas allow Classic Helicopters to takeoff at least once a day for medical flights. Transient and based helicopters use apron areas for takeoff and landing operations. (See Exhibit 2-3, Existing Facilities for location)

The pads are in good condition. However, the pads do not meet FAA public heliport design standards.



LEGEND	
EXISTING	DESCRIPTION
— PL —	AIRPORT PROPERTY LINE (PL)
⊕	AIRPORT REFERENCE POINT (ARP)
★	AIRPORT ROTATING BEACON
▨	BUILDING CONSTRUCTION
— BRL —	BUILDING RESTRICTION LINE (BRL)
— FC —	FACILITY CONSTRUCTION
— X — X —	FENCING
— · · · —	RUNWAY THRESHOLD LIGHTS
— (C) —	TOPOGRAPHIC CONTOURS
⊙	WIND INDICATOR/SEGMENTED CIRCLE
— (L) —	WIND INDICATOR (Lighted)
— (S) —	WIND SOCK
⊠ VASI-4	NAVIGATIONAL AID INSTALLATION
■	DISTANCE-TO-GO MARKER
⊕	TVOR
●	UTILITY POLE (50' HIGH)



Stantec

PAGE MUNICIPAL AIRPORT
Master Plan Update

EXHIBIT 2-3
EXISTING FACILITIES

Airfield Marking and Signage

Runway / Taxiway Markings: Runway 15-33 is marked as a visual runway. The runway markings include: designation numerals, centerline stripes and taxiway holding position markings. Runway 07-25 does not have markings due to the gravel surface. Taxiway A has a solid yellow centerline stripe. Runway and taxiway markings are in good condition.

Aircraft parking aprons have solid yellow centerline taxi markings and white tiedown markings.

Signage: There are four (4) 'Distance-To-Go' markers located approximately 100 feet east of Runway 15-33.

There are five (5) Taxiway exit signs to the runway, as well as, two (2) apron signs directing aircraft traffic from the aircraft parking aprons to the taxiway. Several airport information signs are located at each end of the runway and along the apron areas. All signs are in good condition.

Lighting and Navigation Aids

Lighting: Runway 15-33 is equipped with Medium Intensity Runway Lights (MIRL) with radio transmitter control activated by pilots. Threshold lights (two-color: red/green lens) with Runway End Identifier Lights (REILs) are located at both ends of Runway 15-33 and indicate the beginning of the usable runway to approaching aircraft. Runway 7/25 does not have runway lighting. Parallel Taxiway A and connecting taxiways have blue edge lighting and are radio-controlled simultaneously with the MIRL system.

A rotating beacon located south of the terminal building is equipped with a system that projects two beams of light, one green and one white, 180° apart. The beacon was relocated in 1998 and is in good condition.

There are a total of five (5) obstruction lights on the following facilities: Automated Surface Observation System (ASOS) located south of the FBO (Sunrise) buildings; lightning rod on top of the airport beacon; TVOR structure; an antenna on top of the water tower south of the airport; and an apron light at the northwest corner of the new (November 1999) general aviation apron. Security lighting includes, three (3) pole-mounted lights between the main GA and secondary aprons.

A segmented circle with a lighted windsock is located on the east side of the runway approximately 2,000 feet from Runway 33 end. An additional windsock is located approximately 225 feet northeast of the intersection of Runway 15-33 and 07-25.

Visual Approach Slope Indicators (VASIs), providing a three-degree glide slope, are located at each end of Runway 15-33.

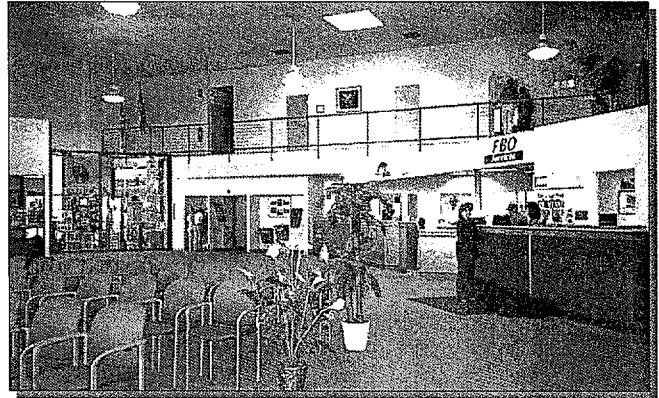
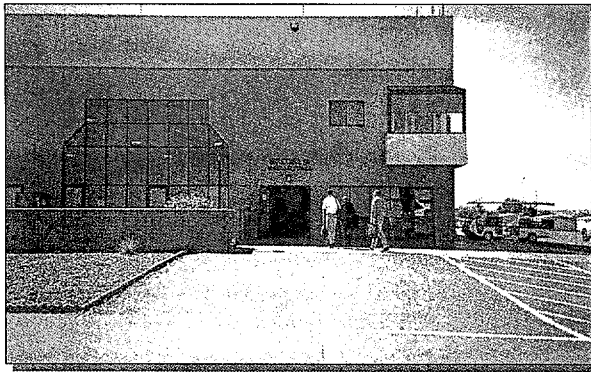
Navigational Aids: A Terminal Very High Frequency Omnidirectional Range (TVOR) is located to the northeast of the intersection of the runways. The radio signal transmitted from the TVOR provides information used in instrument approach procedures to the airport. Distance measuring equipment is co-located with the VOR. The FAA operates and maintains all navigational aids at Page Airport, with the exception of the REILs.

2.5.2 Landside Facilities

Landside facilities consist primarily of facilities required to accommodate aircraft, passengers and pilots while they are at the airport. Landside Facilities typically consist of terminal buildings, FBO facilities, hangars, and other airport support facilities.

Terminal Building

The new terminal building at Page Municipal Airport was built in 1994 and is approximately 10,000 square feet. The terminal building houses Sunrise Airlines, Lake Powell Air, Avis Car Rentals, and a gift shop. Offices, meeting rooms and restrooms are also available.



Fixed Based Operators (FBOs)

There are two FBOs located at Page Municipal Airport, Sunrise Airline, Inc. (including Lake Powell Air) and Classic Helicopters.

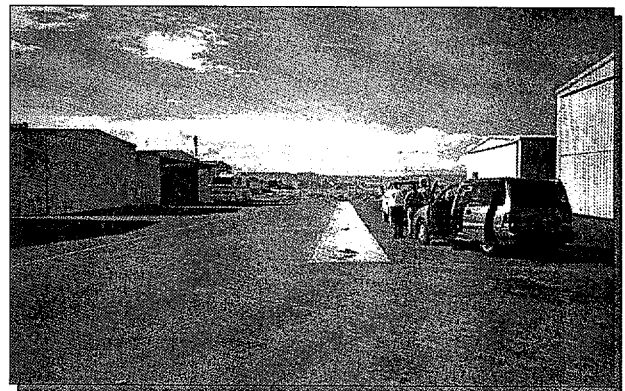
Sunrise Airlines is the commuter airline serving Page under the essential air service program. The airline provides three daily flights to Phoenix using 19-passenger Jetstream 31 aircraft. Lake Powell Air, a subsidiary of Sunrise Airlines Inc., provides other services such as fuel, maintenance, tours, and charter flights.

Classic Helicopters is located at the west end of the terminal complex and provides air tour, aircraft rescue, charter and medical transport flights. The FBO averages one to two flights a day, however the number of flights may vary depending on the season. Classic also provides fuel and maintenance services.

Aircraft Storage/Hangars

There are a total of 42 privately owned hangars at Page Municipal Airport. As previously shown in Exhibit 2-3, these facilities are located northwest and south of the terminal building. The size and types of hangars at the airport include:

- Twenty (20) t-hangars
- Sixteen (16) conventional box (50' x 50' or larger)
- Six (6) maintenance and storage hangars.



Hangar sizes for each area as follows:

New Terminal Area

- * Approximately 10,000 square feet, Classic Helicopter Maintenance and Storage Hangar (with offices and additional storage areas located on the second floor)
- * Approximately 18,000 square feet, Sunrise Airlines Inc. Maintenance Hangar (with office and storage areas located on the second floor)

Old Terminal Area

- * 2,500 square feet, Storage Hangar, Sunrise Airlines Inc.
- * 2,000 square feet, Storage Hangar, Sunrise Airlines Inc.
- * 3,000 square feet, Old Terminal, SRP leases from Sunrise Airlines
- * 3,500 square feet, National Park Service Hangar

Automobile Parking

Public: The parking area serving the terminal consists of ninety-four (94) paved parking spaces which includes five (5) recreational vehicle spaces, eleven (11) rental car ready spaces, four (4) handicap spaces and 74 general parking spaces (public and employee). Buses and taxicabs park along the front curb of the terminal building. Additional parking areas are located west and in front of Scenic Airlines, Inc. building (old Terminal building) which has approximately 12 paved parking spaces.

Long-term: Located south of the secondary parking area is a fenced long-term parking area. The long-term parking consists of approximately 35 spaces.



Perimeter Fence

The airport is completely enclosed by an eight-foot chain link fence topped by three-strand barbwire. The fence does not always follow the airport boundary due the rugged terrain of Manson Mesa. Steep slopes make it impractical to place the fence on certain outer portions of the property.

Surface Access

The airport is located east of the downtown area of Page approximately one-half (½) mile. The airport access roads are Aero and Sage Avenue. As shown in Exhibit 2-3, Existing Facilities, the access roads provide three (3) alternative routes to the airport:



The **main public routes** (Sage Avenue and Aero) are to the east of downtown. Sage proceeds directly to the terminal building area.

The **secondary route** (10th Avenue) is to the northeast of downtown. The old terminal area in the center of the airport and south of the main terminal has access onto Sage Avenue.

The airport has fifteen (15) secondary **airport access points**, two (2) are located on Glen Canyon Drive and 17th Avenue, primarily used for construction purposes.

Off-Airport Signage

Off-airport directional signage is located in the City, at 10th Avenue, Aero, and at Sage Avenue.

Fueling Facilities

Fueling services at Page Municipal Airport are provided by Classic Aviation (Texaco fuel) and Sunrise Airlines, Inc. (Phillips Fuel) with facilities and equipment as follows:

Sunrise Airlines, Inc. (Total Five (5) underground tanks, 3 trucks)

- Two (2) 12,000 gallon tanks store 100 LL (AVGAS)
- Two (2) 12,000 gallon tanks store Jet A
- One (1) 12,000 gallon tank stores automotive fuel
- One (1) 1,200 gallon truck for 100 LL
- Two (2) 2,000 & 3,000 gallon trucks for Jet A

Classic Helicopter (Total Two (2) above ground tanks, 2 trucks)

- One (1) 2,000 gallon tank stores Jet A
- One (1) 750 gallon tank Stores 100 LL (AVGAS)
- One (1) 750 gallon truck for 100 LL
- One (1) 2,000 gallon truck for Jet A

Fuel storage for both FBOs is located south of the Old Terminal Building. The total combined fuel storage capacity at the airport is 62,750 gallons. Both FBOs have line crews of two per shift from sunup to sundown. The existing fuel facilities comply with both Environmental Protection Agency (EPA) and Arizona Department of Environmental Quality (ADEQ) regulations and standards.

Aircraft Rescue and Firefighting Facilities (ARFF) and Security

The airport complies with the Code of Federal Regulations 14, Part 139, which governs the operations of airports serving FAA certificated air carrier activities. Within these regulations, specific requirements for the operation of airport firefighting and rescue equipment and service have been established.

A firefighting index is based on the number of departures conducted at a particular airport by aircraft within specific length categories. The ARFF is certified as Index A capable. Index A requires a three-minute response time from alarm/notification (from ARFF) to arrival at midpoint of furthest runway. At least one airport rescue and firefighting vehicle must respond. Page Municipal Airport meets the requirement.

The Aircraft Rescue and Fire fighting (ARFF) equipment is in a 12 by 12-foot "firehouse" south of the old terminal, and is equipped with a single fire truck. The current ARFF vehicle is a 1982, one-ton Chrysler truck equipped with Firex twin agent unit with 450 pounds of potassium-based dry chemical and 100 gallons of AFFF premium that meets the Index A requirements. The main

Fire Department is located one-half (½) mile south of the airport and provides additional fire service to the airport. There are six volunteer firefighters for operations seven days a week.

There are no permanent Police facilities at the airport, however law enforcement services are available on a patrol basis and during 911 emergencies.



Utilities

Page Municipal Airport tenants and users have access to and/or benefit from services provided by the following list of local companies through the City of Page.

Electric: The electric service to Page is managed by Page Electric Utility. Page is provided an allotment of power from the Bureau of Reclamation from the generating station at Glen Canyon Dam. The electric power is distributed to users

through a distribution system that currently runs along the western edge of the airport and supplies the airport.

Water: The City of Page provides water at the airport through an eight-inch water main located along Sage Avenue and 10th Avenue. The municipal water is obtained from Lake Powell and is distributed throughout the city.

Sewer: The airport sewer system is part of the main City of Page sewer system. The City's sewage system is capable of handling all airport sewage needs.

Sanitation: The City of Page provides contractual trash removal.

Gas: Black Mountain Gas Company provides propane gas service to the airport. The gas line is located adjacent to Sage Avenue and 10th Avenue.

Other Facilities

The airport has an Automated Surface Observation System (ASOS) located south of the fuel storage area. This facility is an ASOS-D and is linked to the National Weather Service.

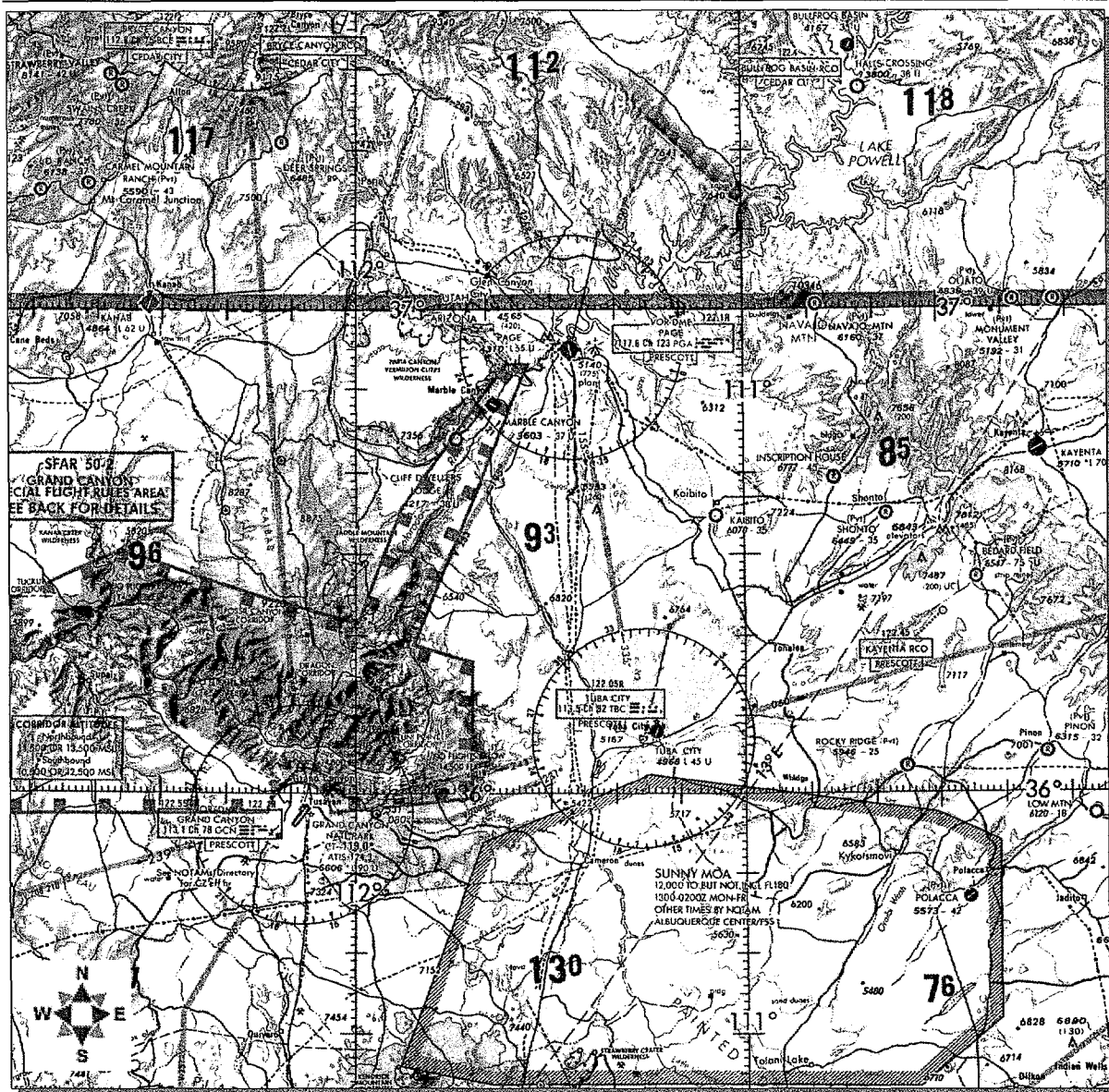
2.6 AIRSPACE AND AIR TRAFFIC ACTIVITY

This task included an inventory of airspace, procedures, and operations at the Page Municipal Airport.

2.6.1 Airspace

The National Airspace System utilizes 40 years of technically engineered concepts in navigational equipment and air traffic procedures in the development of over 250,000 miles of marked airways above the Continental United States. **Exhibit 2-4** illustrates the variety of airspace uses surrounding Page Municipal Airport. The following illustration is an excerpt from the Phoenix Sectional Aeronautical Chart.

Exhibit 2-4 Airspace



LEGEND (map is not to scale)

Airport with hard-surfaced runways 1,500' to 8069' in length

SFAR 50-2 Grand Canyon Special Flight Rules Area

Military Operations Area (MOA)

Source: Phoenix Sectional, 1999

Arizona/Utah Border

Victor Airways

Magnetic Deviation (13 degrees)

Airways

There are three route systems designed for air navigation purposes. Two of these systems, the Victor Airway System and the Jet Airway System, rely upon navigational aids to describe the centerline of a course (airway) for an aircraft to follow on its intended route of flight. The Victor Airway System, an airway network between 1,200 feet Above Ground level (AGL) and 18,000 feet Mean Sea Level (MSL) and the Jet Route System, from 18,000 to 45,000 feet MSL, provide the majority of the routes traveled by aircraft in the United States.

The Victor Airway System that affects Page Municipal Airport is depicted in Exhibit 2-4. Two Victor Airways, which are designated by the letter V and a number (V 208 and V 293), use the Page Very High Frequency Omnidirectional Range and Distance Measuring Equipment (VOR-DME) as part of the airway navigational aid system.

The Jet Airway System, layered above the Victor Airway System, is typically designated by the letter J. There are no Jet Airways designated within the Page Airspace. The closest Jet Airways are located in the Flagstaff Pulliam Airport Airspace.

The third route system is the Military Training Route (MTR). These routes are low altitude routes used by military aircraft in order to train pilots for various low-level military missions. The nearest MTRs are located east of Flagstaff Pulliam Airport and oriented in a north-south direction.

Reserved Airspace

Airspace may be reserved for use by a specific agency, normally military, wherein operations of civilian aircraft are restricted or prohibited. The reserve airspace in the vicinity of the airport is defined as follows:

Military Operations Areas (MOA): Sunny MOA is located southeast of Page Municipal Airport. The Sunny MOA airspace is under the control of Albuquerque ARTCC. Military operations are authorized in this airspace and may be conducted daily as described in the Sunny MOA. Civilian aircraft may transit this airspace at any time during VFR weather conditions.

Special Federal Aviation Regulations (SFAR): SFAR 50-2 Grand Canyon National Park Special Flight Rules Area is located west and south of the Page Municipal Airport. The SFAR 50-2 are special regulations that apply to all aircraft operations below 14,500 feet MSL. Pilots intending to fly within the SFAR airspace should refer to the Grand Canyon VFR Aeronautical Chart for more detailed information.²

2.6.2 Air Traffic Activities

Air Traffic control service to Page Municipal Airport is provided by Denver Air Route Traffic Control Center (ARTCC) in Colorado. This facility provides all radar approach and departure assistance to pilots operating on instrument flight plans as well as air traffic advisories to pilots who request the enroute radar advisory service. Additional air traffic service is provided by Prescott Flight Service Station (FSS). The FSS provides pilots with weather information, advisory service, flight plan processing, and communication with other air traffic control agencies.

² ADOT, Aeronautical Chart, 1999

The Page UNICOM is operated by a local FBO, Sunrise Airlines, Inc., contracted by the City of Page. The UNICOM service provides first hand local airport advisories and aircraft maneuvering instructions. This service is provided during daylight hours only.

Approaches

When weather conditions have a base cloud layer of 1,000 feet or less and/or ground visibility is less than three miles, pilots are required to fly their aircraft using instruments and ground navigational aids. These weather limitations are described as Instrument Flight Rules (IFR). All air carriers and many general aviation aircraft operate under IFR regardless of weather conditions. The instrument approaches available at the Page Municipal Airport include a VOR-GPS A approach (690' ceiling, 1 mile visibility) and GPS 15 approach to (435' ceiling, 1 mile visibility) R15.

The traffic pattern is right for Runway 25 and 33, and standard left for approaches to Runway 07 and 15. Page Municipal Airport's noise abatement procedures recommend, when winds permit, that aircraft takeoff and land on Runway 33 end. The use of Runway 07-25 is recommended only during extremely high crosswinds. Most pilots prefer to land on Runway 15 and fly short patterns (1 mile or less)³.

2.7 AIRPORT- RELATED LAND USE

The City of Page encompasses approximately 16.5 square miles. The present land uses consist of a mixture of single and multi-family residences, commercial, shopping facilities, institutional and other public facilities. As indicated from the 1992 Site Selection Study, approximately 30 percent of the community is developed while 70 percent remains largely undeveloped. The study also mentions that some areas of the city may be left undeveloped to protect aesthetically important features and to preserve view corridors.

The majority of the land north and west are public lands, administered by the National Park Service. The land east and south of Page belongs to the Navajo Indian Reservation.

The airport is located in the northeast area of the City of Page. To the west of the airport most of the land is residential area (single family residential). The majority of mixed uses are concentrated further west of the airport, toward the downtown area. An illustration of the existing land use around the airport is located in the Airport Plans Chapter.

The airport property is under the jurisdiction of the City of Page zoning ordinances. The zoning code has designated the Page Municipal Airport as a sub-element within the plan, providing specific land use recommendation based upon the aircraft approach zones, produced in the April 1989 Master Plan. The zoning code defines the approach surfaces of Runway 15-33 and 07-25 to limit land use consistent with, "constitutional guarantees to industrial, commercial, recreational and restricted residential uses." (Pg. 3.9, Ordinance No.53) The designated approach zones are illustrated in the Airport Plans Chapter.

³ *Mountain Flying Magazine, Story by Ed Huber, 1999*

2.8 AIRPORT ACTIVITIES

In addition to the physical facilities inventory for Page Municipal Airport, the historical and present aviation activity levels define the airport and its role in the community.

2.8.1 Based Aircraft and Fleet Mix

Based Aircraft are those airplanes, which are permanently stationed at an airport, usually by some form of agreement between the aircraft owner and airport sponsor (i.e. City of Page). The growth and expansion of general aviation activities has been moderate over the past 18 years. Another component to establish airfield requirements and capacity is fleet mix. Based Aircraft fleet mix data between 1980 and 1998 is presented on **Table 2-1**.

Table 2- 1 Based Aircraft History and Fleet Mix

Year	Based Aircraft	Single Engine	Multi-Engine	Jet	Helicopters	Others
1980 ¹	43	37	5	0	0	1
1981 ¹	49	43	5	0	0	1
1982 ¹	44	38	5	0	0	1
1983 ¹	42	37	5	0	0	1
1984 ¹	37	32	4	0	0	1
1985 ¹	38	33	4	0	0	1
1986 ¹	38	33	4	0	0	0
1987 ¹	44	39	5	0	1	0
1988 ²	36	24	4	0	6	1
1989 ²	38	26	5	0	6	2
1990 ²	48	33	6	0	8	2
1991 ²	48	33	6	0	8	2
1992 ²	32	22	4	0	5	1
1993 ²	32	22	4	0	5	1
1994 ²	35	24	4	0	6	1
1995 ²	35	24	4	0	6	1
1996 ²	34	23	4	0	5	1
1997 ²	34	23	4	0	5	1
1998 ²	34	23	4	0	5	1

¹Source: April 1989, Master Plan, ²Source: FAA, Terminal Area Forecast (TAF), December 1998, and airport-related staff input. It is important to note that a recent count conducted by airport staff concluded that there are a total of 54 aircraft based at the airport, which significantly differs from TAF data.

NOTE: See Table 3-2 for 1999 data and based aircraft tenants.

2.8.2 Aircraft Operations

The aircraft operations are the total number of landings and takeoffs that occur during any given year at Page Municipal Airport. In 1998, based on the FAA form 5010 Master Record, the airport accommodated approximately 34,371 operations. The history of airport operations is listed in **Table 2-2**.

Table 2-2 Aircraft Operations

ITINERANT OPERATIONS TYPES								
YEAR	SCHED. AIR CARRIER	SCHEDULED COMMUTER	SUNRISE NON- SCHEDULED/ ON-DEMAND	OTHER OPS	PRIVATE	OTHER GOV'T (NON- MILITARY)	MILITARY	TOTAL ITINERANT OPERATIONS
1994	0	1,539	13,922	527	9,685	1,684	29	27,386
1995	0	1,543	14,591	579	10,158	1,684	41	28,596
1996	0	2,981	18,515	637	14,218	1,684	44	38,080
1997	0	4,420	22,439	701	18,275	1,684	48	47,567
1998	0	5,858	26,525	771	22,450	1,684	51	57,339
1999	0	2,080	20,484	3,379	12,287	1,684	51	39,965

LOCAL OPERATIONS TYPES					
YEAR	COMMERCIAL TRAINING	PRIVATE TRAINING	OTHER GOV'T TRAINING	MILITARY TRAINING	TOTAL LOCAL OPERATIONS
1994	170	98	8	0	276
1995	178	103	8	0	289
1996	233	144	8	0	385
1997	289	185	8	0	482
1998	344	227	8	1	580
1999	287	124	8	1	420

TOTAL OPERATIONS

YEAR	GRAND TOTAL OPERATIONS
1994	27,661
1995	28,885
1996	38,465
1997	48,049
1998	57,919
1999	40,385

Source: Local user information

2.8.3 Commuter Service

Page Municipal Airport offers commuter air service within its service area. The airport is presently served by Sunrise Airlines with several 19-passenger Jetstream 31 aircraft to Phoenix and Las Vegas. Commuter air service at Page has been relatively stable in the past five years after undergoing several airline service changes.

According to the recent Arizona Air Service Study, conducted by ADOT Aeronautics, the commuter carriers that have served the Page Market include: Sky West, Great Lakes, Scenic, and Sunrise Airlines. In 1997, destinations included, Grand Canyon, Phoenix, and Show Low, in Arizona,⁴ as well as Denver, Colorado. Air Taxi/Commuter Service operations are approximately 62 percent of total airport operations in 1998. Historical records of airport activity, including Air Taxi/Commuter operations and enplanements are illustrated in **Table 2-3**. While enplanement levels show a significant increase through 1995 and drop thereafter, the reliability of these numbers is questionable.

Table 2- 3 Historical Air Taxi/Commuter Operations and Enplanements

Air Taxi/Commuter Operations				
Year	Scheduled Commuters	Non-scheduled/On-Demand		Totals Operations
	Sunrise Airlines	Sunrise Airlines	Classic Aviation	
1994	1,539	13,922	0	15,461
1995	1,543	14,591	0	16,134
1996	2,981	18,515	0	21,496
1997	4,420	22,439	0	26,859
1998	5,858	26,363	162	32,383
1999	2,080	20,250	234	22,564*

NOTE: Scenic Airlines was replaced by Sunrise Airlines, operations from Las Vegas Tours moved business to the Grand Canyon Airport.

Enplanements					
Year	Scheduled Commuter	Nonscheduled/On-Demand		Misc.	Total Enplanements
	Sunrise Airlines	Sunrise Airlines	Classic Aviation	Classic Aviation	
1994	4,522	20,000	0	265	24,787
1995	4,691	20,750	0	292	25,733
1996	4,861	21,500	0	321	26,682
1997	5,030	22,250	0	353	27,633
1998	5,200	23,000	189	388	28,777
1999	4,200	23,000	343	475	28,018

Source: Local User Information

⁴ Arizona Air Service Study, ADOT Aeronautics Division, Draft, 1998.

2.9 SOCIOECONOMIC FACTORS

Socioeconomic information, consisting of demographic, economic, employment and governmental data, provides a basis for determining air service level requirements for Page Municipal Airport. The strength of the local economy and population base are important factors to assess continuing aviation facility needs over the planning period.

2.9.1 Population

Population trends can provide insight when evaluating potential users of air transportation and forecasting future demand at an airport. The size and structure of local communities and the service area (see Section 2.3) that the airport supports provide an understanding of the economic base necessary to determine future airport improvements.

However, population presented for the Page Municipal Airport include the City plus 25% for the surrounding community. This 25% includes a portion of the Navajo Nation and communities such as, Kaibito (711) and Shonto (799). Although these outlying area populations may not be within the city limits, these areas continue to benefit from services available in the City of Page. Thus, the population within these areas is counted as it impacts the city's socioeconomic characteristics.

Population trends in Arizona have reflected significant growth in the past decade. Historical populations for the Page community, Coconino County, and Arizona are presented in **Table 2-4**.

Table 2- 4 Historical Population

Area Description	1980	1990	1999	Period Growth
City of Page	4,907	6,598	9,430	45%
Outlying Areas (25%)	1,227	1,650	2,208	
Average Annual Growth		3%	4%	
Coconino County	75,008	96,591	121,625	38%
Average Annual Growth		3%	3%	
Arizona	2,716,546	3,665,228	4,764,025	43%
Average Annual Growth		3%	4%	

Source: Department of Economic Security, U.S. Census Bureau, December 14, 1998

The population of Page has been growing at an average annual rate of 4 percent over the past nine years, a higher rate than had been experienced in the previous ten years (1980-1990 approximately 3%). The State's rate of growth during the same period was 4 percent, while the County's average annual growth was 3 percent. As shown in the table, the current growth rate is positive and indicative of an expanding population base. Page's population growth has paralleled the State's growth over the past 20 years.

2.9.2 Economic Base

With 18,608 square miles, Coconino County, is the largest county in Arizona, but is one of the most sparsely populated.⁵ Indian reservations comprise 38.1 percent of the land and are home to the Navajo, Hopi, Paiute, Havasupai, and Hualapai tribes. The US Forest Service and Bureau of Land Management control 32.3 percent of the land. The County's economy encompasses tourism and government with the service and trade sectors accounting for 50 percent or more of the jobs, as illustrated in **Table 2-5**. These percentages are similar to the employment by sector for the City of Page. Both City and County employment have experienced continued growth at an average annual rate of 10 percent and 13 percent respectively, since 1980. (See **Table 2-6**)

Table 2-5 1998 Coconino County Employment by Sector

Employment by Sector	Percentage
Manufacturing	6%
Mining	>1%
Construction	4%
Transportation, Communication, and Utilities	3%
Trade	28%
Finance, Insurance, and Real Estate	2%
Services and Miscellaneous	28%
Government	28%

Source: Arizona DES, 1998

Tourism is the leading force in both the City of Page and Coconino County economy, playing an important role in supporting the services and retail trade sectors. The scenic attractions in the area include Lake Powell, North and South Rim of the Grand Canyon, Bryce and Zion National Park, Monument Valley, and Canyon de Chelly, to name a few.

Table 2- 6 City of Page Labor Force

Description	1980	1990	1998
Civilian Labor Force	2,197	3,432	4,071
Employed	2,070	3,227	3,837
Unemployment	127	205	234
Unemployment Rate	5.8%	6%	5%

Source: AZ Department of Economic Security, Population Statistics Unit, August 1997.

⁵ County Profile, Arizona Department of Commerce, 9-98

2.10 WEATHER

Weather is an important consideration in planning an airport facility. Temperature is a key factor in determining runway lengths. When other conditions (pressure and humidity) remain the same, an aircraft requires a longer takeoff run as the temperature increases. Prevailing wind direction and intensity also affect runway orientation. Ceiling (height of cloud coverage) and visibility data are used in determining the need for specific instrument navigational aids.

The Page Community experiences approximately 350 days of Visual Flight Rules (VFR) with 50-mile visibility, clear skies and light surface winds. Situated approximately at 4,183 feet MSL, the town enjoys moderate winters and warm summers. During July, the maximum daily temperatures at Page were over 90 degrees Fahrenheit and precipitation was light. **Table 2-7** shows climate data for the City of Page.

Table 2-7 1999 Weather

Month	Average Temperature (°F)		Average Total Precipitation (inches)
	Daily Max.	Daily Min.	
January	45	24	.16
February	53	31	.30
March	61	36	.3
April	72	46	.36
May	82	53	.51
June	90	62	.13
July	97	71	.24
August	94	69	.79
September	88	61	.72
October	77	50	.33
November	59	38	.34
December	45	25	.53
Year	72	47	4.78

Source: National Weather Service & 1999 The Weather Underground, Inc.

The prevailing winds are out of the north and southwest. The current wind patterns for Page Municipal Airport are compiled and presented in a windrose shown on the Airport Layout Plan (ALP) in Chapter 6..

Wind data used for Page Municipal Airport was generated for four years 1994-1998, from an Automated Wind Observation Station (ASOS) located at the airport. According to the windrose, wind coverage for Runway 15-33 is approximately 97 percent at 12 mph and 98 percent at 15 mph. Runway 07-25 had wind coverage of 99 percent at 12mph and 15mph. Although the FAA requires ten or more years of data, no wind information is available specifically for Page prior to the years reported.

2.11 SUMMARY

The process of updating the Master Plan for Page Municipal Airport required the collection and evaluation of various data related to the airport, the community and the surrounding area. This data included an inventory of existing airport facilities and services, the identification of current land uses, airspace, weather and socioeconomic details as well as other information.

The next chapter will examine the current aviation demand experienced by the airport and how these demands can be expected to change in the future. Projections of aviation activity through the year 2020 will provide the necessary guidelines and requirements, so important for long-range planning.